

Increase Walking Survey from a 5-to 3-Year Basis



Partner Reported Opportunities (PROs)
for Reducing Methane Emissions

PRO Fact Sheet No. 903

Applicable sector(s):

☐ Production ☐ Processing ☒ Transmission and Distribution

Partners reporting this PRO: Bay State Gas Company, Cinergy Corporation

Other related PROs: Conduct DI&M at Remote Sites, Use Ultrasound to Identify Leaks

Compressors/Engines ☐
Dehydrators ☐
Pipelines ☐
Pneumatics/Controls ☐
Tanks ☐
Valves ☐
Wells ☐
Other ☒

Technology/Practice Overview

Description

Methane emissions from valves, flanges, and, connectors on gas service connections can be significant, as well as a safety hazard. One partner has reported successfully reducing these emissions through an improvement in their inspection program.

By decreasing the time between fugitive emissions surveys on their gas service connections, from five to three years, methane leaks were discovered earlier. Those pieces of equipment that are found to be emitting gas are tightened, if applicable, or scheduled for maintenance.

Operating Requirements

Additional personnel and fugitive emissions detectors may be necessary.

Applicability

Gas delivery facilities for which leak surveys are being performed at the minimum regulatory frequency may be good candidates for this practice.

Methane Savings: 1,500 Mcf per year

Costs

Capital Costs (including installation)

☐ <\$1,000 ☒ \$1,000 – \$10,000 ☐ >\$10,000

Operating and Maintenance Costs (annual)

☐ <\$100 ☐ \$100-\$1,000 ☒ >\$1,000

Payback (Years)

☐ 0–1 ☒ 1–3 ☐ 3–10 ☐ >10

Benefits

Reducing methane emissions was a primary justification for the project.

Methane Emissions Reductions

Methane emissions result from leaks at flanges, valves, and connectors throughout the gas delivery network. With early detection, methane leaks can be mitigated more promptly, therefore avoiding gas losses and reducing methane emissions. One partner reported finding and repairing one leaking service connection per 100 service connections inspected. A program that inspects all services in three years rather than five years will find about 15 percent of the leaks a year earlier. The partner reported methane savings ranging from 1,400 Mcf to 1,665 Mcf for one year.

Economic Analysis

Basis for Costs and Savings

Methane emissions reductions of 1,500 Mcf per year were estimated for a distribution system with 250,000 service connections and one leak repair per 100 service connections inspected, saving 0.5 scf per hour per repair.

Discussion

This practice can provide a payback in less than three years. To implement more frequent surveys, additional costs may include new fugitive emissions detectors, extra personnel to perform surveys and repair the leaks, and new/replacement parts. These costs should be largely offset by the incremental benefits of detecting leaks earlier and preventing future methane losses in the service connections.